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(54) Title: COSMETIC FORMULATIONS COMPRISING ANTIMICROBIAL PIGMENTS

(57) Abstract: The present invention relates to formulations for topical applications comprising pigments obtainable by agitating a suspension comprising one or more inorganic pigments and silver oxide, in order to reduce undesirable side effects caused by microorganisms.

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INTERNATIONAL SEARCH REPORT

International Application No

/EP2004/003090

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 A61K7/48 A01N59/16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C09C A01N C09D A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, CHEM ABS Data, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 665 004 A (LUCKY LTD) 2 August 1995 (1995-08-02) cited in the application page 3, line 23 - page 4, line 3 page 4, line 17 - line 35 page 5, line 8 - line 16 page 5, line 46 - line 57 page 6, line 39 - line 58	1-13, 22-32
X	DATABASE CHEMABS 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; Entered STN: 15 July 1997 (1997-07-15), SEO, D. S. ET AL: "Antimicrobial inorganic pigments for cosmetics" XP002298452 retrieved from STN Database accession no. 127:39451 abstract -/-	1-13, 22-32

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
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- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- * & * document member of the same patent family

Date of the actual completion of the international search

5 October 2004

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INTERNATIONAL SEARCH REPORT

International Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	& COSMETICS & TOILETRIES , 112(5), 83-88, 90 CODEN: CTOIDG; ISSN: 0361-4387, 1997, ----- EP 0 251 783 A (JOHNSON MATTHEY PLC) 7 January 1988 (1988-01-07) cited in the application claims 1-8	1-13, 22-32
A	A. GOETZ, E.C.Y. INN: "Reversible Photolysis of Ag sorbed on Colloidal Metal Oxides" REVIEWS IN MODERN PHYSICS, vol. 20, no. 1, January 1948 (1948-01), pages 131-142, XP002298486 cited in the application page 131, column 2, paragraph B. - page 133, column 1, line 18 -----	1-5,17
A	DATABASE WPI Section Ch, Week 198949 Derwent Publications Ltd., London, GB; Class A60, AN 1989-359956 XP002298538 & JP 01 268764 A (ISHIHARA SANGYO KAISHA LTD) 26 October 1989 (1989-10-26) abstract -----	1
A	WO 94/15462 A (DU PONT) 21 July 1994 (1994-07-21) claims 1-3,15 -----	1-29

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2004/003090

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: —
because they relate to subject matter not required to be searched by this Authority, namely:
Although claims 30-32 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0665004	A	02-08-1995	KR 9700745 B1	18-01-1997
			DE 69517212 D1	06-07-2000
			DE 69517212 T2	28-09-2000
			EP 0665004 A2	02-08-1995
			JP 2775596 B2	16-07-1998
			JP 8040830 A	13-02-1996
			US 6030627 A	29-02-2000
EP 0251783	A	07-01-1988	AT 87794 T	15-04-1993
			AU 599995 B2	02-08-1990
			AU 7505487 A	07-01-1988
			DE 3785253 D1	13-05-1993
			DE 3785253 T2	12-08-1993
			EP 0251783 A2	07-01-1988
			ES 2054673 T3	16-08-1994
			FI 872964 A ,B,	04-01-1988
			JP 8005767 B	24-01-1996
			JP 63088109 A	19-04-1988
			NO 872768 A ,B,	04-01-1988
			NZ 220918 A	28-11-1989
			US 4906466 A	06-03-1990
			US 5413788 A	09-05-1995
JP 1268764	A	26-10-1989	NONE	
WO 9415462	A	21-07-1994	US 5180585 A	19-01-1993
			WO 9415462 A1	21-07-1994
			AU 3441293 A	15-08-1994
			DE 69321139 D1	22-10-1998
			DE 69321139 T2	12-05-1999
			EP 0677989 A1	25-10-1995
			JP 8505858 T	25-06-1996
			US 5503840 A	02-04-1996
			US 5643592 A	01-07-1997
			US 5595750 A	21-01-1997